



Students Find NEEMO 0.004 Leagues Under the Sea

DTTP Links Texas School Children with Underwater Lab

This summer, many young people were charmed by the Disney-Pixar blockbuster, "Finding Nemo." Others turned toward classic literature, such as Jules Vern's *2000 Leagues Under the Sea*. For a group of Texas students, the summer included a little of both.

Recently, with the help of the National Guard's Distributive Training Technology Project (DTTP), 30 high school students learned what it's like to live in an extreme underwater environment – and discovered how closely life beneath the waves parallels life in space. Students at the DTTP classroom at Fort Maybry, TX, used video teleconferencing (VTC) technology to interact in real time with the crew of the submersible deep-sea habitat, Aquarius, located three-and-a half miles off the coast of the Florida Keys.

As part of NASA's Extreme Environment Mission Operations (NEEMO) project, the space agency uses Aquarius to help understand the challenges of living and working in space. Aquarius, which is owned by the National Oceanic and Atmospheric Administration, sits near deep coral reefs 62 feet below the surface. It provides approximately 400 cubic feet of living space – about that of a recreational travel trailer. To date, NASA has sent five teams of astronauts, scientists, and engineers to the underwater enclosure. The crew of NEEMO 5 consisted of three astronauts and one scientist.

To help them appreciate the problems and frustrations Aquarius crew members (and, thus, astronauts) face, the students were asked to construct three-dimensional models of an underwater habitat using straws and paper clips, then combine them into a single structure. To simulate communications lag, the student teams could communicate only in writing. Participant Amanda Duran observed, "We just had very different opinions. We didn't really work together at first." Another student, Marty Swope, explained what he learned from the exercise: "Teamwork is important. I also saw that there could be confusion in communication."

The Chief, DTTP Policy & Liaison, noted the educational impact upon the students. "This was a tremendous opportunity for the students to experience life aboard Aquarius, to interact directly with the crew and learn about the challenges of living and working in a hostile, alien environment. This event provided them with a richer and more powerful learning experience."

Tina Holloway, National Guard Distance Learning Specialist in Texas, summarized the event's importance: "This experience is a unique opportunity for the kids to see what they can do – what they can become – if they study hard. One day, they may be scientists themselves, doing exciting research in exotic places."

For more information, please contact DTTP Business Operations at DTTP.Busops@ngbcio.ngb.army.mil.

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